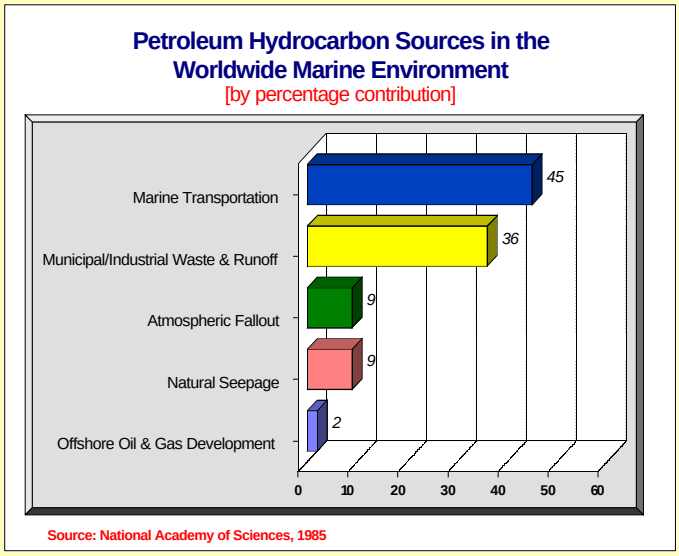
OCS Oil Spill Facts

Statistics apply to crude oil only; 1 barrel (bbl) is equal to 42 gallons

Background

- ✓ A 1985 National Academy of Sciences study entitled "Oil in the Sea" stated that worldwide offshore oil and gas development is responsible for only 2 percent of the petroleum hydrocarbons in the world's marine environment. Through its regulatory program, MMS is working diligently toward keeping this statistic as low as possible.



- ✓ On the U.S. Outer Continental Shelf (OCS), there are over 55,000 workers, 3,900 oil and gas production facilities and 21,000 miles of pipeline.
- ✓ The MMS regulatory program prevents accidents and pollution on the Federal OCS by
  - ensuring that every OCS operator's exploration or development and production plan has an associated oil spill contingency plan that identifies response equipment, key personnel, and response procedures.
  - requiring operators to use the best and safest technologies on all new and, wherever practical, existing operations.
  - inspecting safety devices and systems, conducting oil spill drills, and enforcing its regulations with a civil and criminal penalties program.
- ✓ In FY99, MMS will spend about $5.7 million for research on oil spill prediction, prevention and response technology, oil-detection systems, in-situ burn technology, oil-collection methods, ocean circulation modeling, and oil transport simulation.

Federal OCS Activities and U.S. Natural Oil Seeps

- ✓ Seeps are found where oil and/or natural gas-bearing strata intersect the earth's surface, or where they are tapped by faults and fractures. Seeps are common in the Gulf of Mexico and offshore southern California.
- ✓ About 1,000 barrels of oil seep naturally each day from the seabed into U.S. marine waters. Natural seeps introduce about 100 times more oil into U.S. marine waters than do OCS oil and gas activities.

- ✓ Since 1980, it is estimated that more than 1 million barrels of oil seeped from 50 seepage sites in the offshore southern California region, whereas only 732 barrels spilled from the 23 active Federal OCS production platforms or their pipelines in the same region.

◆ Federal OCS Oil Spills: 1980–98

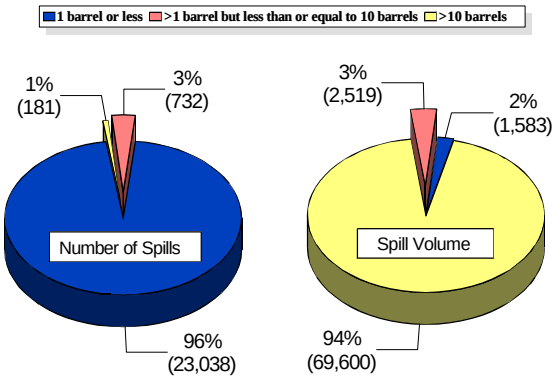
- ✓ Since 1980, OCS operators have produced about 6.9 billion barrels of oil. The amount of oil spilled totaled about 74,000 barrels (0.001%) or 1 barrel spilled for every 93,000 barrels produced.

- ✓ Spills of 50 barrels or more account for most of the oil spilled from OCS facilities. From exploratory drilling activities, only one spill was greater than 50 barrels (100 bbl). From OCS platforms, only one spill was greater than 1,000 barrels (1,456 bbl). From OCS pipelines, seven spills were greater than 1,000 barrels.

- ✓ Even after Hurricane Andrew in the Gulf of Mexico in 1992, where about 2,000 OCS platforms were exposed to the hurricane force winds and seas, oil spillage totaled only 2,500 barrels.

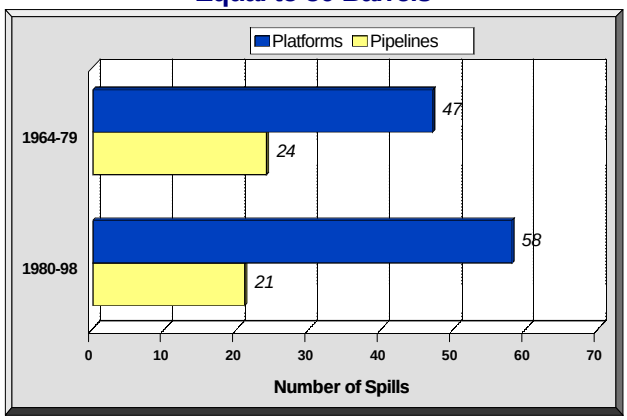
- ✓ Although production was more during 1980–98 than in 1964–79 (6.9 Bbbl vs. 4.5 Bbbl), statistical comparisons show a significant decline in the severity of platform and pipeline oil spills equal to or greater than 50 barrels. When considering those spills that were greater than or equal to 50 barrels, the chart at right shows more than 400,000 barrels of crude oil were spilled from OCS platforms and pipelines during 1964–79 compared to about 67,000 barrels spilled during 1980–98.

Oil Spills on the Federal OCS: 1980-98

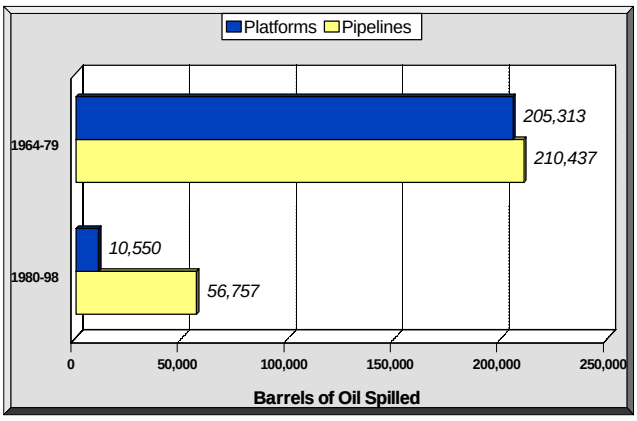


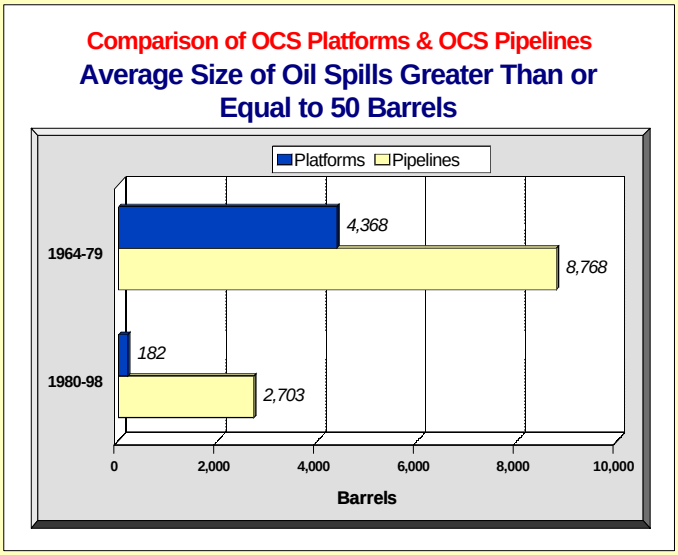
[Note: Most OCS spill events are smaller than 1 barrel (96%). However, most of the oil spilled comes from spills that are greater than 10 barrels (1% of the spills, but 94% of the spill volume.]

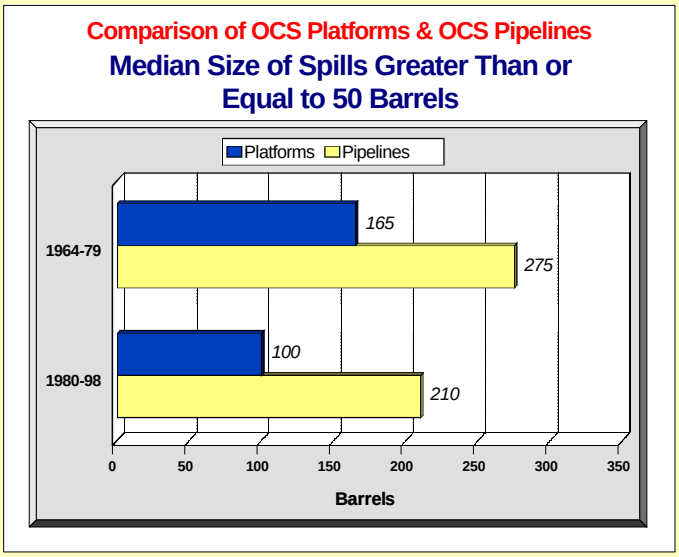
Comparison of OCS Platforms & OCS Pipelines
Number of Oil Spills Greater than or Equal to 50 Barrels



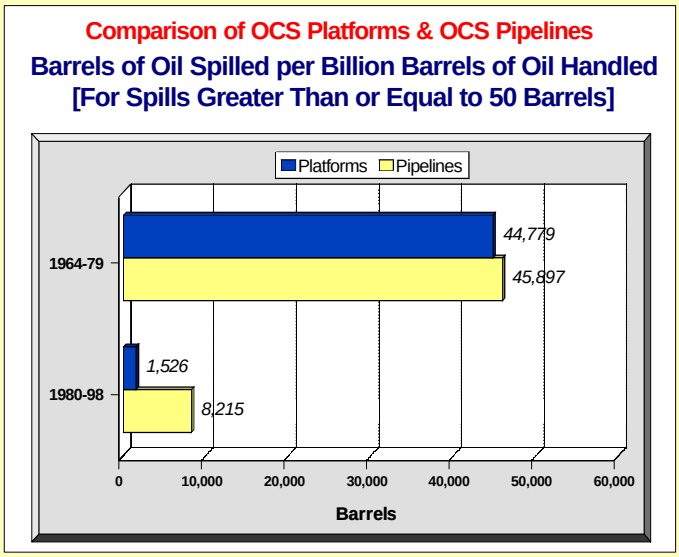
Comparison of OCS Platforms & Pipelines
Total Amounts of Oil Spilled from Spills Greater than or Equal to 50 Barrels





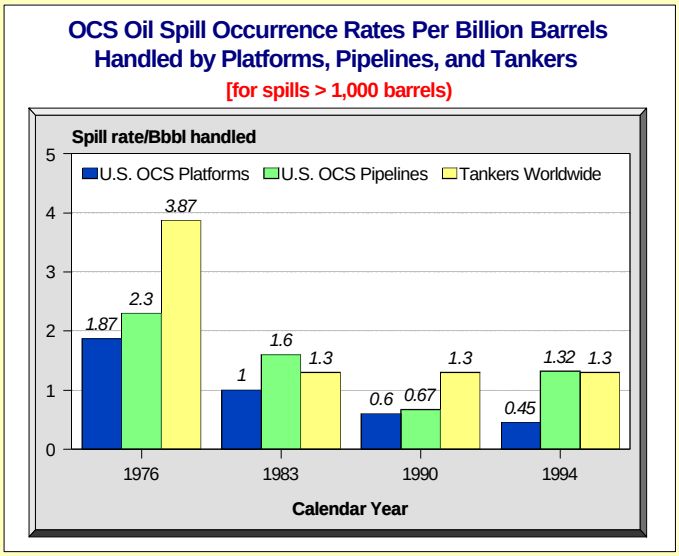


◆ Federal OCS Activities and Tankers



- ✓ How oil is transported depends on the available infrastructure. In some cases, tankers are the only practical means of transporting production (e.g., Alaskan North Slope).
- ✓ Tanker spills tend to be larger events than those from OCS pipelines, and the majority of tanker spills occur in port or near shore where the potential environmental impact is more severe.
- ✓ From 1980–97, for every billion barrels of oil delivered, about 11,000 barrels spilled into U.S. waters from tanker spills (≥1,000 barrels). This estimate does not account for spills outside U.S. waters from imported oil destined for the United States; whereas, tankers worldwide spilled about 72,500 barrels for every billion barrels delivered.
- ✓ More than 70 percent of oil spills greater than 1,000 barrels from OCS pipelines have been caused by anchor damage from marine vessels. From 1980–98, for every billion barrels delivered, about 8,000 barrels spilled into U.S. waters from OCS pipelines.
- ✓ Any comparison of relative risks of oil spills between OCS production and tanker movements of oil must recognize that about 65 percent of OCS energy production is natural gas, which poses little risk of pollution.

Oil Spills (1,000 barrels or greater) Occurrence Rates



- ✓ In 1994, MMS revised its oil spill occurrence rates for spills of 1,000 barrels or greater. MMS uses oil spill occurrence rates along with trajectory analyses to estimate the potential for spills occurring and contacting sensitive resources and in environmental analyses for pre- and postlease activities.
- ✓ Oil spill occurrence rates measure the potential for an oil spill based on the key assumption that spills occur in direct proportion to the volume of oil handled. The rates are based on trend analyses, which show any significant changes in spill occurrence, if any. The rates are expressed as number of spills per billion barrels of oil handled.
- ✓ The historical record (1964–92) for OCS platform spill occurrences shows a statistically significant decline since 1973. The revised spill rates for OCS platforms were based on data from 1973–92.
- ✓ For OCS pipeline spills, four spill events between 1988 and 1992 reversed a decline that began in 1974 and continued through 1987. Because of this apparent trend reversal, the revised spill rate for pipelines includes the entire 1964–92 OCS pipeline spill record.

Spills Greater than 1,000 Barrels from OCS Oil & Gas Operations Since 1980

Year	Type of Accident	Spillage (bbl)	Location
1980	Platform pump failure, tank overflow	1,456	High Island
1981	Pipeline anchor damage	5,100	South Pass
1988	Pipeline anchor damage	15,576	Galveston
1990	Pipeline anchor damage	*14,423	Ship Shoal
1990	Pipeline trawl damage to valve	4,569	Eugene Island
1992	Pipeline hurricane damage	2,000	South Pelto
1994	Pipeline trawl damage	* 4,533	Ship Shoal
1998	Pipeline mud slide	* * 8,000	South Pass

* Condensate Spill
* * Preliminary estimate.

- ✓ The OCS platform spill rate continues to decline, with no spills of 1,000 barrels or greater occurring since the 1980 spill.
- ✓ From 1980–98, the average spill size for OCS platform and pipeline spills greater than or equal to 1,000 barrels was 7,000 barrels.
- ✓ From 1980–97, the rates for tanker spills worldwide have declined somewhat, with the average spill size for spills 1,000 barrels or greater being about 86,000 barrels (25,500 bbl in U.S. waters).